

## Subpart B - Pavement Management System

*Pavement management system (PMS)* means a systematic process that provides, analyzes, and summarizes pavement information for use in selecting and implementing cost-effective pavement construction, rehabilitation, and maintenance programs.

### § 500.205 PMS General requirements.

(a) Each State shall have a PMS for Federal-aid highways that meets the requirements of § 500.207 of this subpart.

(b) The State is responsible for assuring that all Federal-aid highways in the State, except those that are federally owned, are covered by a PMS. Coverage of federally owned public roads shall be determined cooperatively by the State, the FHWA, and the agencies that own the roads.

(c) PMSs should be based on the concepts described in the "AASHTO Guidelines for Pavement Management Systems."<sup>1</sup>

(d) Pavements shall be designed to accommodate current and predicted traffic needs in a safe, durable, and cost-effective manner.

### § 500.207 PMS components.

(a) The PMS for the National Highway System (NHS) shall, as a minimum, consist of the following components:

(1) Data collection and management.

(i) An inventory of physical pavement features including the number of lanes, length, width, surface type, functional classification, and shoulder information.

(ii) A history of project dates and types of construction,

reconstruction, rehabilitation, and preventive maintenance.

(iii) Condition surveys that include ride, distress, rutting, and surface friction.

(iv) Traffic information including volumes, classification, and load data.

(v) A data base that links all data files related to the PMS. The data base shall be the source of pavement related information reported to the FHWA for the HPMS in accordance with the HPMS Field Manual.<sup>2</sup>

(2) Analyses, at a frequency established by the State consistent with its PMS objectives.

(i) A pavement condition analysis that includes ride, distress, rutting, and surface friction.

(ii) A pavement performance analysis that includes an estimate of present and predicted performance of specific pavement types and an estimate of the remaining service life of all pavements on the network.

(iii) An investment analysis that includes:

(A) A network-level analysis that estimates total costs for present and projected conditions across the network.

(B) A project level analysis that determines investment strategies including a prioritized list of recommended candidate projects with recommended preservation treatments that span single-year and multi-year periods using life-cycle cost analysis.

(C) Appropriate horizons, as determined by the State, for these investment analyses.

(iv) For appropriate sections, an engineering analysis that includes the evaluation of design, construction, rehabilitation, materials, mix designs, and preventive

maintenance as they relate to the performance of pavements.

(3) Update. The PMS shall be evaluated annually, based on the agency's current policies, engineering criteria, practices, and experience, and updated as necessary.

(b) The PMS for Federal-aid highways that are not on the NHS shall be modeled on the components described in paragraph (a) of this section, but may be tailored to meet State and local needs. These components shall incorporate the use of the international roughness index or the pavement serviceability rating data as specified in Chapter IV of the HPMS Field Manual.

<sup>1</sup> AASHTO Guidelines for Pavement Management Systems, July 1990, can be purchased from the American Association of State Highway and Transportation Officials, 444 N. Capitol Street, NW, suite 225, Washington, DC 20001. Available for inspection as prescribed in 49 CFR part 7, appendix D.

<sup>2</sup> Highway Performance Monitoring System (HPMS) Field Manual for the Continuing Analytical and Statistical Data Base, DOT/FHWA, August 30, 1993. (FHWA Order M5800.1B). Available for inspection and copying as prescribed in 49 CFR part 7, appendix D.